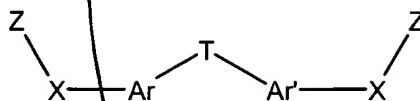


We claim:

1. A compound represented by 1:



1

wherein

X represents independently for each occurrence a bond, O, S, or NR';

Z represents independently for each occurrence H, acyl, trialkylsilyl, alkylsulfonyl, fluoroalkylsulfonyl, arylsulfonyl, or S(O)<sub>2</sub>OH;

Ar and Ar' are independently selected from the group consisting of optionally substituted aryl and heteroaryl;

T represents a covalent tether connecting Ar and Ar', wherein said covalent linker comprises an amide, ether, amine or ester moiety;

R represents independently for each occurrence H, alkyl, , aryl, or aralkyl;

R' represents independently for each occurrence H, alkyl, alkenyl, aryl, aralkyl, formyl, acyl, sulfonyl, or -(CH<sub>2</sub>)<sub>m</sub>-R<sub>80</sub>;

R<sub>80</sub> represents independently for each occurrence aryl, cycloalkyl, cycloalkenyl, or heterocyclyl; and

m is an integer in the range 0 to 8 inclusive.

2. The compound of claim 1, wherein X represents independently for each occurrence a bond or O.
3. The compound of claim 1, wherein X represents O.
4. The compound of claim 1, wherein Z represents independently for each occurrence alkylsulfonyl, fluoroalkylsulfonyl, arylsulfonyl, or S(O)<sub>2</sub>OH.
5. The compound of claim 1, wherein Z represents independently for each

occurrence methylsulfonyl, trifluoromethylsulfonyl, or  $\text{S(O)}_2\text{OH}$ .

6. The compound of claim 1, wherein Ar and Ar' represent independently for each occurrence optionally substituted aryl.

7. The compound of claim 1, wherein Ar and Ar' represent independently for each occurrence optionally substituted phenyl or naphthyl.

8. The compound of claim 1, wherein X represents O; and Z represents independently for each occurrence alkylsulfonyl, fluoroalkylsulfonyl, arylsulfonyl, or  $\text{S(O)}_2\text{OH}$ .

9. The compound of claim 1, wherein X represents O; and Z represents independently for each occurrence methylsulfonyl, trifluoromethylsulfonyl, or  $\text{S(O)}_2\text{OH}$ .

10. The compound of claim 1, wherein X represents O; Z represents independently for each occurrence alkylsulfonyl, fluoroalkylsulfonyl, arylsulfonyl, or  $\text{S(O)}_2\text{OH}$ ; and Ar and Ar' represent independently for each occurrence optionally substituted aryl.

11. The compound of claim 1, wherein X represents O; Z represents independently for each occurrence methylsulfonyl, trifluoromethylsulfonyl, or  $\text{S(O)}_2\text{OH}$ ; and Ar and Ar' represent independently for each occurrence optionally substituted aryl.

12. The compound of claim 1, wherein X represents O; Z represents independently for each occurrence alkylsulfonyl, fluoroalkylsulfonyl, arylsulfonyl, or  $\text{S(O)}_2\text{OH}$ ; and Ar and Ar' represent independently for each occurrence optionally substituted phenyl or naphthyl.

13. The compound of claim 1, wherein X represents O; Z represents independently for each occurrence methylsulfonyl, trifluoromethylsulfonyl, or  $\text{S(O)}_2\text{OH}$ ; and Ar and Ar' represent independently for each occurrence optionally substituted phenyl or naphthyl.

14. The compound of claim 1, wherein T represents  $-\text{C(O)NR-Q-NRC(O)}-$ ; Q is  $-(\text{CH}_2)_n-$  or heterocyclyl; and n is an integer selected from the range 2 to 10 inclusive.

15. The compound of claim 1, wherein T represents  $-(\text{CH}_2)_n-\text{NR-Q-O}-$ ; and Q represents alkyl, cycloalkyl, or heterocyclyl.

16. The compound of claim 1, wherein T represents  $-(\text{CH}_2)_n-\text{NR-Q-O-C(O)}-$  or  $-(\text{CH}_2)_n-$

NR-Q-O-C(O)-(CH=CH)-; and Q represents alkyl, cycloalkyl, or heterocyclyl.

17. The compound of claim 1, wherein T represents  $-(CH_2)-NR-Q-$ ; and Q is a bond, alkyl, or heterocyclyl.

18. The compound of claim 1, wherein T represents  $-CH_2CH(C(O)NHMe)-NRC(O)-Q-C(O)NR-G-$ ; Q is alkyl, cycloalkyl, cycloalkenyl, heterocyclyl, alkenyl, aryl, heteroaryl, aralkyl, alkyl-O-alkyl, or alkyl-S-alkyl; and G is a bond, alkyl, or heterocyclyl.

19. A composition, comprising a compound of claim 1; and an acceptable excipient.

20. A combinatorial library, consisting of a plurality of compounds of claim 1.

21. A method of inhibiting adhesion to a surface by a bacterium, fungus, virion, freshwater invertebrate, or marine invertebrate, comprising the step of treating a surface with an effective amount of a compound of claim 1.

22. A method of enhancing adhesion to a surface by a bacterium, fungus, virion, freshwater invertebrate, or marine invertebrate, comprising the step of treating a surface with an effective amount of a compound of claim 1.

23. The method of claim 21 or 22, wherein said surface is a portion of an exterior surface of an aquatic vessel.

24. The method of claim 20 or 21, wherein said surface is a portion of an exterior surface of an off-shore platform.

25. The method of claim 20 or 21, wherein said surface is a portion of an exterior surface of a harbor infrastructure.

26. The method of claim 20 or 21, wherein said surface is a portion of an exterior or interior surface of a conduit for water or an aqueous solution.

27. The method of claim 20 or 21, wherein said surface is a portion of an exterior surface of a cable. In certain embodiments, said surface is a portion of an exterior or interior surface of a laboratory apparatus.

28. The method of claim 20 or 21, wherein said surface is a portion of an animal cell membrane. In certain embodiments, said surface is a portion of a mammalian cell

membrane.

29. The method of claim 20 or 21, wherein said surface is a portion of a human cell membrane.

30. The method of claim 20 or 21, wherein said surface is a portion of an exterior surface of a plant.

31. The method of claim 20 or 21, wherein said surface is a portion of an exterior surface of a plant component.

32. The method of claim 20 or 21, wherein said surface is a portion of the cell membrane of a fungus. In certain embodiments, said surface is a portion of the cell wall of a fungus.

33. The method of claim 20 or 21, wherein said surface is a portion of the cell membrane of a bacterium.

34. The method of claim 20 or 21, wherein said surface is a portion of the cell wall of a bacterium.

35. The method of claim 20 or 21, wherein said surface is a portion of a virion protein coat.

36. The method of claim 20 or 21, wherein said surface is a portion of a virion envelope.

37. The method of claim 20 or 21, wherein said surface is a portion of a filter for water or aqueous solutions.

38. The method of claim 20 or 21, wherein said surface is a portion of an exterior surface of an implantable medical device.

39. The method of claim 20 or 21, wherein said surface is a portion of an exterior surface of an insertable medical device.

40. The method of claim 20 or 21, wherein said surface is a portion of a food processing surface.